



Product Education Center: Comprehensive training for 80,000 students a year

Strategic Application System solutions



Like most major corporations, IBM provides its employees with a continuing education program. The IBM Product Education Center, located in Irving, Texas, is IBM's largest educational organization – and the only U.S. facility that offers comprehensive training on every product marketed by IBM. At its central campus, housed in two large office buildings in Irving's Las Colinas Office Center, Product Education administered 307,000 student days of education and recorded 83,000 student course completions during 1991.

"When you have 80,000 students, 325 classroom offerings, two satellite communication networks and a budget of over \$100 million as we do," explains product education director Jerry Gantzer, "your operation is similar to that of a sizeable university. And like most universities, we immediately made the automation of all administrative functions a top priority – recognizing that by doing so and relieving instructional staff of administrative tasks, we could free up valuable instructor and class time."

"But in automating our administration, we had some special requirements," notes Jim Carney, manager of requirements and operations. "Unlike most universities, our courses don't last a semester. They last a week or two, sometimes less. We have a lot of people continually coming and going, and we have to make sure that everything is right from the minute they walk in the door. We don't have a four-month semester to iron out problems."

The IBM Product Education Center in Irving, Texas, is IBM's largest educational organization.

What's more, the Product Education "academic year" and enrollment process are perpetual. At any given time, between 60,000 and 80,000 students are enrolled for upcoming courses, and rosters for specific courses undergo constant change, right up to the first day of class. Product Education knew it needed a support system to help it cope with the dynamic nature of its business. Consequently, it decided to use IBM's Application System (AS) as the cornerstone of a long-term solution.

MASTER: A seamless process and central database

IBM Product Education was created in late 1988 out of IBM's commitment to improve the quality and cost-effectiveness of skill-building education available to IBM systems engineers, internal I/S support staff and customer software support personnel. The new organization was formed by consolidating four different education groups at the Irving complex.

"In the beginning, Product Education was forced to function with two totally incompatible administrative support systems," says Sheryl Pendry, education support services manager. "No interaction was possible between the two databases. And while employees performed similar functions—and were part of the same organization—users of one system had no knowledge or understanding of the other system."

By early 1990, productivity was lagging as a result of the redundant systems. IBM had begun its company-wide downsizing program, while the number of student days continued to climb. The only way to keep pace and improve productivity was to develop a single system, process and database for the entire organization.

Development of the system began in February of 1990 as a cooperative project of IBM Product Education and Headquarters Services. Xenos Corporation, an IBM Business Partner, was brought on board as an added resource to help develop and test the new system. By the end of April, the AS-based MASTER (Management Analysis System for Tracking, Evaluating and Reporting) system was up and running.

According to Al Celaya of Xenos, "AS provided the perfect tool for creating MASTER. There was already an existing body of AS knowledge among the staff, and AS proved to be a good fit with the relational database requirements that were essential to the application. The interactive report generation and graphics capabilities of AS enable even casual users to get sophisticated reports out of the system. Plus, AS is a very productive development tool."

How productive? It took two programmers just two months to write the 1,000 separate programs that comprise MASTER—altogether, close to 60,000 lines of AS code. In addition, several major enhancements to MASTER have already been completed and should be implemented by the end of the first quarter of 1992.

Streamlined enrollment and student processing

Today, MASTER automates almost every aspect of Product Education's administrative process: enrolling students in classes; insuring that they have class and lab space; arranging for their housing and transportation; handling emergencies and other problems during their stay; and processing all grades and evaluations. In doing so, the system fully utilizes the mail, communications and calendaring capabilities of OfficeVision™ and PROFS® to schedule facilities and classes and communicate with students.

MASTER is used on a daily basis by enrollment coordinators, class schedulers and housing coordinators, who support Product Education instructors and instruction managers in meeting the educational needs of IBM's various lines of business.

The enrollment process begins with an IBM employee viewing the Product Education course descriptions that are included on IBM's Management System for Education (MSE) online system. Once the student selects a Product Education course via MSE, the enrollment information is downloaded to MASTER.

"MASTER saves us an average of six hours of preparation time in getting ready for each class."

– Jim Carney

Manager, Requirements and Operations



Jim Carney (left) confers with product education director Jerry Gantzer (seated) and Jose Villarreal, manager of requirements planning.

From that point on, support coordinators use MASTER to perform all required local processing. The system automatically determines if a student is funded or non-funded for housing and requests additional information required to process the application. It then makes housing assignments that take smoker-nonsmoker/male-female considerations into account; groups students into four-person carpools for economy; sends housing and driver information to the student; provides class managers with packets of forms detailing the above for each class; and generates online class rosters that allow enrollment coordinators to optimize instructional resources, up until the time a class commences.

MASTER continues working long after a course ends. The system records student grades for individual tests, computes class averages, calculates final grades based upon test weights and course objectives, and generates a student evaluation letter that is electronically sent to both the student and the student's manager. Finally, it processes class evaluations and makes all history data available for future analysis by management.

Lower overhead and higher productivity

MASTER has had a dramatic impact on Product Education's efficiency and costs, according to Jim Carney: "We save an average of six hours of preparation time in getting ready for each class. When you multiply those six hours by the number of classes we conduct each year, the result is a significant reduction in work—six person-years overall. Plus, MASTER gives us far more accurate information than we have ever had."

This view is shared by Jimmy Wright, a long-time education support services staff member who at one time or another has performed every function within her department. Wright well remembers "the manual paper days" before MASTER. "The biggest benefit of MASTER has been in the processing of classes. Previously, an enrollment coordinator could only handle one class at a time. Now, each one can manage 40 to 50 classes at once—which means we are able to get by with two-thirds fewer people than we had two years ago."

Wright also credits MASTER with improving data quality, simplifying maintenance through its use of a single relational database, and making system operations easier. "Everything is now instantly viewable on the screen and can be used by any function that needs it. We also have consistency across the board—everyone does things the same way," she explains.

Staff member
Jimmy Wright (left)
studies data with
Sheryl Pendry.



"We need to keep our utilization at 50 percent in order to break even. With MASTER, we run at 90 percent."

**– Sheryl Pendry
Education Support Services Manager**

The housing operation also has realized unexpected economies through MASTER's ability to maximize utilization of the nearby 200-unit apartment complex that IBM leases for its students. "We need to keep our utilization at 50 percent in order to break even," explains Sheryl Pendry, "but with MASTER we run at 90 percent. It enables us to function as a 'hotel' for other IBMers who visit the Dallas area. This added utilization will recoup about \$80,000 of IBM's expenses for the complex in the first year."

Building on the MASTER database foundation

Now that the MASTER database is in place and data integrity has been insured, Product Education is aggressively building a broad decision-support capability on that foundation.

This management information system will give instruction managers and lines-of-business managers menued online access to a wide range of analyses and reports on classes and curriculum. MASTER can provide instant answers to field requests for information on the education level of course graduates. And Level 3 tracking—surveys of students and their managers four to six months after graduation to measure the on-the-job value of training received—is being implemented as a critical component in achieving Product Education's market-driven quality objective.

That objective is well on its way to being met, according to Jerry Gantzer. "We've removed most of the defects in our front-end processing, and have significantly reduced the costs and time required to do that processing—essential elements of market-driven quality," he explains.

"But that's only the beginning," continues Gantzer. "MASTER will eventually enable us to further improve the quality of our curriculum and instruction by freeing up even more instructor time for the transfer of skill and knowledge in the classroom, and better manage the investment that IBM has made in our organization."



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1133 Westchester Avenue
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1-92
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GK20-2472-00